



United Nations Environment Programme



1977

Distr.
LIMITED
UNEP/IG.7/1
1st January 1977
Original: ENGLISH

UNEP Meeting of experts designated by
Governments, Intergovernmental and
Non-Governmental Organizations on
the Ozone Layer

Washington, D.C., 1-9 March 1977

PROVISIONAL AGENDA FOR THE MEETING

1. Opening of the meeting.
2. Adoption of the agenda.
3. Review of the risk to the ozone layer and possible effects on mankind.
4. Ongoing and planned activities (contributions from agencies, Governments and other bodies).
5. Recommendations:
 - (a) Priorities;
 - (b) Distribution of work;
 - (c) Co-ordination mechanism;
 - (d) Others.
6. Report of the meeting.
7. Closure of the meeting.

ANNOTATIONS

1. Opening of the meeting

The meeting will be chaired by the Executive Director of UNEP or his designated representative. It will begin on Tuesday, 1 March 1977 at 10:30 a.m. at the State Department Building, Washington, D.C., U.S.A.

2. Adoption of the agenda

The provisional agenda will be presented to the meeting for adoption.

3. Review of the risk to the ozone layer and possible effects on mankind

An overview paper will be presented outlining possible changes in the characteristics of the ozone layer and possible environmental implications of such changes.

4. Ongoing and planned activities

Contributions will be presented by international, governmental and nongovernmental organizations containing information on ongoing and planned activities on various aspects of stratospheric ozone problems (physical aspects, effects on climate, health, ecosystems, crops, etc.). Discussion will be aimed at identification of gaps in research.

5. Recommendations:

(a) Priorities

Based on the inputs noted under item 4, priorities will be decided for implementation of the work required to fill the identified gaps;

(b) Distribution of work

Based on the priorities set, distribution of work will be agreed among the participating organizations;

(c) Co-ordination mechanism

The mechanics of co-ordinating the activities of the organizations participating in stratospheric ozone research will be decided;

(d) Others

Any other points that might come up during the discussions.

6. Report of the meeting

It is planned that the meeting will adopt its report.

7. Closure of the meeting

It is anticipated that the meeting will be closed on 9 March 1977.



United Nations Environment Programme



Distr.
LIMITED

UNEP/WG.7/2
28th February 1977

Original: ENGLISH

UNEP Meeting of experts designated by
Governments, Intergovernmental and
Non-Governmental Organizations on
the Ozone Layer

Washington, D.C., 1-9 March 1977

TIMETABLE

Tuesday, March 1

1030 - 1115

Opening Ceremony

1115 - 1145

Coffee Break

1145 - 1230

First working meeting

(1400 - 1800)

Presentation of UNEP
Overview Paper

(Wednesday, March 2)

(0900 - 1230)

Presentation of papers of
experts designated by
Governments

(1400 - 1800)

(Thursday, March 3)

(0900 - 1230)

Presentation of papers by
international Governmental
organizations

(1400 - 1800)

Presentation of papers by
non-governmental organizations

Friday, March 4)

0900 - 1230)
1400 - 1800)

General discussion on
research gaps and related
matters

Saturday, March 5)

0900 - 1200)

General discussion on research
gaps and related matters

Monday, March 7)

(0900 - 1230)
(1400 - 1800)

Discussion of draft report
and recommendations

Tuesday, March 8)

(0900 - 1230)
(1400 - 1800)

Discussion of draft report
and recommendations

Wednesday, March 9

0900 -1230

Adoption of final report
and recommendations

1400 - 1800 or earlier

Closing of Session

* * *



United Nations
Environment
Programme



Distr.
LIMITED

UNEP/WG.7/3
1st February 1977

Original: ENGLISH

UNEP Meeting of experts designated by
Governments, Intergovernmental and
Non-Governmental Organizations on
the Ozone Layer

Washington, D.C., 1-9 March 1977

Aircraft Engine Emissions

Presented by
The International Civil Aviation Organization

UNITED NATIONS ENVIRONMENT PROGRAMME

OZONE LAYER CONFERENCE

Washington, 1 - 9 March 1977

AIRCRAFT ENGINE EMISSIONS

(Presented by the International Civil Aviation Organization)

1. The nature and responsibilities of ICAO

1.1 The International Civil Aviation Organization (ICAO) is the specialized agency of the United Nations which deals with aviation matters. Its Member States at present number 135. The Chicago Convention on International Civil Aviation (1944) agreed on the principles by which international civil aviation could be developed in a safe and orderly manner and ICAO was the permanent body established to administer these principles.

1.2 The Organization's principal means of discharging this responsibility in the technical and operational areas of aviation is the publication of annexes to the Chicago Convention. These annexes contain internationally agreed specifications covering such subjects as operation of aircraft, rules of the air, personnel licensing, communications, and airworthiness. The specifications are in the form of Standards and Recommended Practices. All Contracting States to the ICAO Convention undertake to incorporate Standards into their national codes. However, if they do not wish to do so in a particular case, they must file a difference with ICAO, which must then be published for the information of the other States.

1.3 In addition to the annexes to the Chicago Convention, ICAO also publishes many other kinds of documents. Some of these are directly connected to specific annexes and take the form of supporting guidance material to assist States in implementing the intentions of the Standards and Recommended Practices.

1.4 In the environmental field, Annex 16 dealing with aircraft noise was published in 1972, culminating several years of intense effort. In addition, circulars have been published on such subjects as "Noise Assessment for Land-Use Planning" (Circular 116-AN/86) and "Guidance Material on SST Aircraft Operations" (Circular 126-AN/91).

2. Liaison with WMO and WHO

2.1 ICAO has been actively supporting the World Meteorological Organization (WMO) programme to investigate stratospheric pollution, including the effects of man's activities on the ozone layer. As the organization responsible for international civil aviation, ICAO stands ready to supply WMO with authoritative operational data as required by that Organization for its studies, such as the information already provided on supersonic aircraft exhaust emissions.

2.2 With regard to the World Health Organization (WHO), ICAO has established liaison with that Organization's section for Control of Environmental Pollution and Hazard and maintains contact with it on programmes of mutual interest--particularly those relating to the effects of aircraft engine exhaust emissions in the vicinity of airports.

3. ICAO activity in environmental matters to date

3.1 Annex 16 to the Chicago Convention contains specifications relating to aircraft noise. Continuing work on this subject, including the updating of this annex, is carried out by an advisory body of ICAO, the Committee on Aircraft Noise. ICAO has also published a circular, "Noise Assessment for Land-Use Planning" (Circular 116-AN/86), which provides descriptions of various methods used in the assessment of noise exposure and a comparison of these methods.

3.2 A circular entitled "Guidance Material on SST Aircraft Operations" (Circular 126-AN/91) has been published which contains, among other things, information regarding sonic boom and its avoidance. This subject remains under consideration by another ICAO advisory body, the Sonic Boom Committee.

3.3 To consider the question of possible atmospheric pollution by aircraft, a study was initiated in 1973 by the Secretariat, assisted by a group of experts from States. These efforts were directed towards aircraft engine emissions in the vicinity of airports and consisted of:

- a) fact finding on relevant technical and regulatory developments in States;
- b) the development of specifications for units and methods of measurement of engine emissions;
- c) a study of the need for a certification scheme to control engine emissions; and
- d) the formulation of proposals for implementation of such a scheme if it were found necessary.

3.4 It was concluded that, although at present aircraft engine emissions do not pose a serious pollution problem except at a few particular airfields, a certification scheme for control of such emissions was desirable. This was because other sources of emissions at airports, chiefly ground vehicles, were being controlled and consequently aircraft would contribute an increasingly significant proportion of pollution if left uncontrolled. It was also recognized that early action before a real problem developed would enable engine designers to plan for low emission engines and avoid any future need for retrofitting with "cleaner" engines.

3.5 Work has therefore been continuing on proposals for a certification scheme for the control of engine emissions, including smoke, vented fuel and gaseous emissions as well as full specifications for instrumentation and measurement procedures. Substantial progress has been achieved in this work and it can be expected that the initial results will see publication in the near future. This material will initially be restricted to turbo-jet and turbo-fan engines used for propulsion of aircraft at subsonic speeds, but will likely be extended to other classes of engines in due course.

3.6 Although the work has been specifically directed towards emissions at low altitudes, the existence has been recognized of a potential high altitude pollution problem which should be kept in sight when the low altitude question is being addressed. Investigation into upper atmosphere pollution is of great interest to ICAO, and should it confirm that aircraft might be a significant contributory factor, ICAO would wish to take steps to alleviate the problem at the earliest possible moment.

3.7 Besides the work on engine emissions outlined above, ICAO has also been considering the need and possibility of controlling emissions at airports by operational means. Such procedures as the delayed start-up of engines before take-off and early shut-down after landing are being considered as ways of reducing taxiing time and therefore emissions.

4. Future activity by ICAO

4.1 In fulfilling its role in the development of international civil aviation, ICAO is conscious of the adverse environmental impacts which may stem from aircraft operations. It is also conscious of its responsibility and that of its Member States to achieve the maximum compatibility between the safe and orderly development of civil aviation and the quality of the human environment.

4.2 In discharging this responsibility ICAO will continue to co-operate with States and other international organizations in studying questions, as they arise, regarding the impact of civil aviation on the environment.

4.3 It is hoped that if potential environmental problem areas are identified at an early stage, then designers can be given time to incorporate technology into new equipment which will avoid or minimize such problems. ICAO's work to minimize the disruptive and costly effect of retroactive regulations is also mentioned in the paper submitted by the United Nations Department of Economic and Social Affairs.



United Nations Environment Programme



Distr.
LIMITED
UNEP/WG.7/3(ABS)
20 January 1977
Original: ENGLISH

UNEP Meeting of experts designated by
Governments, Intergovernmental and
Non-Governmental Organizations on
the Ozone Layer

Washington, D.C., 1-9 March 1977

AIRCRAFT ENGINE EMISSIONS

Paper presented by the International Civil Aviation Organization (ICAO)

Summary

The International Civil Aviation Organization (ICAO) is the specialized agency of the United Nations which deals with aviation matters.

In the environmental field, ICAO has developed international specifications dealing with the control of aircraft noise by certification of aircraft. Circulars have also been published on "Noise Assessment for Land-Use Planning" and "Guidance Material on SST Aircraft Operations". In addition, ICAO has actively supported the World Meteorological Organization (WMO) and the World Health Organization (WHO) in environmental programmes of mutual interest.

Studies of possible atmospheric pollution by aircraft were initiated by ICAO in 1973. And while it was concluded that aircraft engine emissions do not presently pose a serious pollution problem except at a few airports, it was decided that work should be pursued on control of aircraft engine emissions through an engine certification scheme. This decision was reached because the proportion of total emissions at airports which is produced by aircraft is likely to increase as the control of ground vehicles becomes more effective. Work has therefore been continuing on a scheme of controlling smoke, gaseous emissions and vented fuel as well as on the development of specifications for instrumentation and measurement procedures. Control of emissions at airports by operational procedures is also being investigated.

Work to date has been directed toward emissions at low altitudes but the existence of a potential problem at high altitudes has also been recognized. Should investigations confirm that aircraft might be a significant contributor to pollution of the upper atmosphere, ICAO would wish to move to alleviate the problem as soon as possible. Early identification of such problems will provide designers with time to minimize or avoid such problems and reduce the disruptive and costly effects of retroactive regulations.

- - - - -